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BEFORE THE BOARD OF PATENT APPEALS AND INTERFERENCES

Application Number: 09/974,555
Filing Date: October 09, 2001
Appellant(s): WALLS ET AL.

Daniel R. McLure (38,962)
For Appellant

EXAMINER'S ANSWER

This is in response to the appeal brief filed September 20, 2005 appealing from the Office action mailed July 22, 2005.

(1) Real Party in Interest

A statement identifying by name the real party in interest is contained in the brief.

(2) Related Appeals and Interferences

The examiner is not aware of any related appeals, interferences, or judicial proceedings which will directly affect or be directly affected by or have a bearing on the Board's decision in the pending appeal.

(3) Status of Claims

The statement of the status of claims contained in the brief is correct.

(4) Status of Amendments After Final

The appellant's statement of the status of amendments after final rejection contained in the brief is correct.

(5) Summary of Claimed Subject Matter

The summary of claimed subject matter contained in the brief is correct.

(6) Grounds of Rejection to be Reviewed on Appeal

The appellant's statement of the grounds of rejection to be reviewed on appeal is correct.

(7) Claims Appendix

The copy of the appealed claims contained in the Appendix to the brief is correct.

(8) Evidence Relied Upon

6,504,441	LUDTKE	12-2002

(9) Grounds of Rejection

The following ground(s) of rejection are applicable to the appealed claims:

Claims 1- 19 are rejected under 35 U.S.C. 102(e) as being anticipated by Ludtke et al (hereinafter Ludtke). U.S. Patent 6,501,441.

As per claim 1, Ludtke discloses a method for configuring a plurality of networked slave computers to cooperate to collectively render a display comprising:

specifying, at a master computer (22), compatible operating configuration for each of the plurality of slave computers (24-40); and

communicating, across the network, the specified configuration to each of the plurality of slave computers [Col 19, Lines 53-66] [Fig. 2].

Ludtke discloses an identical method of displaying images on a multiple display configuration including a plurality of display devices (24-40) and a master device (22) [see Figure 2]. Ludtke further specifies in one of the embodiments for the invention that the management support and controls for the multiple display configuration are exposed to control devices on the serial bus network, *allowing the control devices to issue commands to the master device concerning the configuration of the multiple display configuration*. These commands allow the control device and the user, through the control device, to specify controls such as which display devices are to be used within the multiple display configuration, the configuration and orientation of the image on the multiple display configuration and other appropriate characteristics [Col 19, Lines 53-66].

The master device is responsible for partitioning the video stream into image sections, scaling the image sections, encoding the scaled image sections and transmitting the scaled and encoded image sections to the appropriate display devices within the multiple display configuration [Col 3, Lines 27-33]. The method further includes transmitting the encoded data stream to each appropriate display device [Col 24, Lines 27-28] over a high-speed serial interface [Col 23 Lines 56-58], such as an IEEE 1394 serial bus network [Col 23 Line 60].

As per claim 8, in addition to the reasons cited above for Claim 1, Ludtke points out that the configuration provided in Figure 2 is exemplary only and that it is apparent that an audio/video network could include many different combinations of components [Col 8, Lines 29-31]. It is inherent that the invention can therefore be applied to expanded versions of the network configuration illustrated, such as pluralities of the described network configuration. In fact, Ludtke teaches in the embodiment of his invention that a *parameter configuration_ID* is used to specify which particular multiple display configuration is being configured, assuming the master device (22) supports more than one multiple display configuration [Col 20, Lines 41-43].

Claim 17 is also rejected for the same reasons provided as it differs only by its statutory category.

As per claim 2, Ludtke discloses the method of claim 1, wherein the step of communicating the specified configuration comprises communicating the specified configuration through a communication socket of each of the plurality of slave computers (24-40) [Col 26, Lines 24-27] [Fig.2].

Ludtke discloses a multiple display configuration system comprising, in part, of a display communications circuit configured for receiving and transmitting data [Col

26, Lines 24-27]. It would thus be inherent in such a system to specify configuration through a communication socket of each of the plurality of slave computers.

Claims 9 and 19 are also rejected for the same reason cited above as they differ only by their statutory category.

As per claim 3, Ludtke discloses the method of claim 1, wherein the step of communicating the specified configuration comprises saving at least one slave configuration file in a predetermined location on each of the plurality of slave computers (24-40) [Col 25, Lines 40-46].

In one of his claims for the invention [Col 25, Lines 40-46], Ludtke discloses a method that has as one of its steps, transmitting each scaled image section to each appropriate display device, wherein the step of transmitting each scaled image section includes combining data representing the scaled image section for an appropriate display device in a stream of data packets, *each including an address value corresponding to a memory location within the appropriate display device.*

Further, Ludtke discloses a method wherein a trigger packet, which includes a trigger bit, is sent and signals that storage of a current scaled image for display by the appropriate display device is complete [Col 25, Lines 65-67 & Col 26, Lines 1-2].

Claims 10 and 18 are also rejected in that they make the same assertion as Claim 3 and are differentiated only by their statutory category.

As per claim 4, Ludtke discloses the method of claim 3, wherein the step of saving at least one configuration file comprises saving the at least one slave configuration file using a predetermined filename.

In considering Claims 4, it is inherent from the teachings of Ludtke that the transmittal of encoded data packets to an address corresponding to a memory location within each one of the display devices in the multiple display configuration would be contained in some standard file format (i.e., MPEG or DV file) with a predetermined filename as its identifier [Col 25, Lines 61-64].

Claim 11 is also rejected for the same reason provided above for claim 4 as it differs only by its statutory category.

As per claim 5, Ludkte discloses the method of claim 1, wherein the step of specifying, at a master computer, operating configurations further comprises the step of reading, by the master computer (22), a master configuration file that is stored in a predetermined location [Col 26, Lines 38-46].

In considering Claim 5, Ludtke specifies a multiple display configuration system comprised, in part, by:

a master device coupled to the plurality of display devices comprising:

a master communications circuit configured for receiving and transmitting data; and a control circuit coupled to the master communications circuit for partitioning an image into a plurality of image sections each corresponding to one of the display devices and assigning each image section to a corresponding display device [Col 26, Lines 38-46].

As per claim 6, Ludtke discloses the method of claim 5, wherein the step of specifying, at a master computer (22), operating configurations further comprises the step of translating information from the master configuration file and saving the translated information into a plurality of slave configuration files (24-40) [Col 26, Lines 38-46].

Ludtke additionally points out as a preference that management support and controls for the multiple display configuration are exposed to control devices on the serial bus network, *allowing the control devices to issue commands to the master device concerning the configuration of the multiple display configuration* [Col 19, Lines 53-66]. As shown in Figure 3 for the reference (Ludtke), the master device has memory components (i.e., main memory, video memory, and mass storage) for

storage of control commands/specifications received from control devices to which it is coupled.

The steps of capturing and scaling each image section are performed by a master device (22) on each appropriate image section [Col 24, Lines 38-39, Col 25 Lines 34-39] before each data stream is transmitted to the appropriate display device.

In considering Claim 6, Ludtke specifies a multiple display configuration system comprised, in part, by:

a master device coupled to the plurality of display devices comprising:

a master communications circuit configured for receiving and transmitting data; and a control circuit coupled to the master communications circuit for partitioning an image into a plurality of image sections each corresponding to one of the display devices and assigning each image section to a corresponding display device [Col 26, Lines 38-46].

Ludtke additionally points out as a preference that management support and controls for the multiple display configuration are exposed to control devices on the serial bus network, *allowing the control devices to issue commands to the master device concerning the configuration of the multiple display configuration* [Col 19, Lines 53-66]. As shown in Figure 3 for the reference (Ludtke), the master device

has memory components (i.e., main memory, video memory, and mass storage) for storage of control commands/specifications received from control devices to which it is coupled.

The steps of capturing and scaling each image section are performed by a master device (22) on each appropriate image section [Col 24, Lines 38-39, Col 25 Lines 34-39] before each data stream is transmitted to the appropriate display device.

Claims 12, 13, and 15 are also rejected in that they make the same assertion as Claims 5 and/or Claim 6, and are differentiated only by their statutory category.

As per claim 7, Ludtke discloses the method of claim 5, wherein the step of specifying, at a master computer (22), operating configurations further comprises the step of translating information from the master configuration file and communicating the translated information to the plurality of slave computers (24-40) [Col 19 Lines 63-66 & Col 20, lines 26-29 & 47-49].

Ludtke, in his preferred embodiment teaches that a *configure command* is utilized by a control device to initially set up a multiple display configuration and to change an existing multiple display configuration [Col 19 Lines 63-66]. The master device (22) issues the appropriate commands to each display device (24-40) to set

each display device to the appropriate resolution before the master device (22) configures the display devices (24-40) for the multiple display configuration [Col 20, Lines 26-29]. A subsequent configuration command using the same identification value (parameter configuration_ID) would cause a change to the specified multiple display configuration [Col 20, Lines 47-49].

Ludtke also teaches in an alternative embodiment that given an original data stream (video stream) the master device *decodes* the frame data, partitions the image data into each image section corresponding to each display device, scales the image data, *re-encodes* the scaled image data for each image section on separate isochronous streams and *transmits* the encoded and scaled image data for each image section on separate isochronous channels, one directed to each of the display devices, as appropriate. The display devices (24-40) then display the encoded and scaled image data at an appropriate time, as specified by the master device (22) [Col 22, Lines 42-53].

Claims 14 and 16 are also rejected in that they make the same assertion as Claim 7 and are differentiated only by their statutory category.

(10) Response to Argument

Claims 1-3, 5, 7 and 17-19

With regards to Claim 1, Applicant argues that the claim patently defines over the Ludtke reference in that Ludtke fails to disclose the features of "specifying, at a master computer, compatible operating configuration for each of the plurality of slave computers; and communicating, across the network, the specified configuration to each of the plurality of slave computers." The Examiner respectfully disagrees. The claim and its limitations, as presented by Applicant, and broadly interpreted by the Examiner, are met by the disclosures of the Ludtke reference.

Applicant makes the argument that the features asserted by the claim are clearly disclosed in the specification of the present application, the objective of the invention being to configure, from a single source, a plurality of computers to operate in "compatible" mode or states, and cites "stereo" or "mono" mode as an exemplary operating mode or state. Applicant further states that the specification describes configuration operation pertaining to settings on the graphic cards of the various display computers, and asserts that the reference is, hence, misplaced.

In response to applicant's argument that the Ludtke prior art fails to show certain features of applicant's invention, it is first noted that the features in the specification which Applicant relies upon as rationale for asserting that the prior art does not teach or

anticipate (i.e., ...***configuring the hardware/software settings on the graphic cards of the various display computers...***) are not recited in any of the rejected claim(s), including claim 1. In this regard, it is well understood in the analysis of claims that while claims are interpreted in light of the specification, limitations from the specification cannot and should not be read into the claims. See *In re Van Geuns*, 988 F.2d 1181, 26 USPQ2d 1057 (Fed. Cir. 1993).

Further, independent Claim 1 recites:

"A method for configuring a plurality of networked slave computers to cooperate to collectively render a display comprising:

specifying, at a master computer, compatible operating configuration for each of the plurality of slave computers; and

communicating, across the network, the specified configuration to each of the plurality of slave computers."

Clearly, a substitute claim that is more in alignment with Applicant's preferences might state "A method for configuring *the graphics cards* of a plurality of networked slave computers to cooperate to collectively render a display comprising: specifying, at a master computer, compatible operating configuration *for hardware / software settings for the graphics cards* of each of the plurality of slave computers; and communicating, across the network, the specified configuration to each of the plurality of slave computers..." does not have the same meaning or scope of the original claim.

Notwithstanding, Ludtke teaches the presence of an IEEE 1394-1995 interface card within the master device 22, which can also be built onto the motherboard itself [Fig. 3] [col 8, line 50 – col 9, line 34]. Ludtke further teaches that the IEEE 1394-1995 interface card is couple to a memory buffer 107 which in turn is coupled to a video random access memory (VRAM) circuit 108 that provides the video signals to the display 110 for each display device for displaying the graphic image [col 9, lines 40-56] [Fig. 4].

Applicant also argues that master device 22 in Ludtke merely determines how a video stream is partitioned among the multiple display devices within the display configuration and facilitates the partitioning of said video stream within the said display devices, as opposed to "specifying compatible operating configurations." Applicant again referred to the description in the disclosure for the present invention for the "configuration of the graphics hardware/software to properly render graphics on a display..." as support. Applicant is again appropriately reminded that although the claims are interpreted in light of the specification, limitations from the specification are cannot be read or imported into the claims. See *In re Van Geuns*, 988 F.2d 1181, 26 USPQ2d 1057 (Fed. Cir. 1993).

Nevertheless, it is clear from the disclosures of the Ludtke prior art that while master device 22 is responsible for how a video stream is partitioned among the display

devices 24-40 within the multiple display configuration and facilitating the partitioning of a video stream, the master device 22 of Ludtke also clearly specifies "compatible operating configuration" for each of the plurality of slave computers. By definition, the term "compatible" is defined as being "capable of existing or performing in harmonious, agreeable, or congenial combination". Thus "specifying, at a master computer compatible operating configuration for each of the plurality of slave computers" can be reasonably and broadly interpreted as any specified operating configuration for each of the plurality of slave computers that allows them to properly and collectively render (produce) an image for display in a cooperative, harmonious and agreeable manner (compatible). This is expressly disclosed by Ludtke [col 19, lines 53-67] and [col 20, lines 26-30].

The Examiner also notes that while Applicant cites the non-limiting embodiments of "stereo" or "mono" as examples of a compatible operating configuration mode or state, Ludtke, for his part, likewise discloses displaying images by the plurality of display devices that are appropriately scaled and presented in a synchronized fashion, and doing so in an operating mode or state such as an "overlay" [col 17, lines 18-45] or "picture-in-picture" [col 21, lines 54-61] setting. In a further alternate embodiment of the invention, Ludtke also discloses using a combination of display devices that are themselves capable of physically partitioning an image section from the video stream, as well as display devices that are not capable of partitioning, scaling, and encoding to display the image [col 19, lines 28-52]. As disclosed by Ludtke, for the display devices

that are not capable of physically partitioning, scaling, and encoding of an image section, this task is performed by the master device 22 for the display device and the encoded data stream is transmitted to the appropriate display. In this manner, both types of display devices can be utilized (and configured) within a multiple display configuration.

Additionally, the Examiner maintains that Ludtke clearly specifies and communicates a "compatible operating configuration for each of the plurality of slave computers (display devices)" as required by the claim. In his description for the invention, Ludtke discloses a method and an apparatus for configuring and controlling the display of images on a multiple display configuration including a plurality of display devices, which includes a control circuit which further communicates through a communications circuit **to provide instructions to the display devices to configure the display devices to each capture, scale, and display an appropriate image section at an appropriate time** [col 5, line 55 – col 6, line 1]. In one embodiment, the method includes the steps of determining a latency value for each of the display device, determining a worst case latency value for the display devices, and communicating the *worst case latency value* (a compatible operating configuration timing parameter) as part of the input data stream for the graphic image to each of the display devices, for synchronization purposes [col 10, lines 65 – col 11, line 9].

The corresponding scaled image section represents a full screen of data for the display device. The steps of capturing and scaling are preferably performed by each display device on the appropriate image section corresponding to the display device; or alternatively, performed by a master device on each appropriate section [col 3, line 60 col 4, line 3]. It is also clear from the Ludtke's description of his invention that the display devices, and their video/graphics/text interface cards, are configured so as to recognize and operate on select video stream type formats (e.g., MPEG2, MPEG4, MPEG7 and DV) in order to collectively and properly display the graphic image [col 4, lines 7-11 & col 12, lines 41-46].

Applicant also argues that the "configuration" ascribed to in Ludtke refers to the identification of which displays will cooperate to display an image and the orientation of the image, and does not disclose or suggest the configuration of each of the cooperating computers in a "compatible" configuration as required by claim 1 (e.g., preamble of claim 1 calling for networked slave computers that "cooperate to collectively render a display"). In response to applicant's arguments, the Examiner maintains that the recitation above has not been given full patentable weight because the recitation occurs in the preamble. A preamble is generally not accorded any patentable weight where it merely recites the purpose of a process or the intended use of a structure, and where the body of the claim does not depend on the preamble for completeness but, instead, the process steps or structural limitations are able to stand alone. See *In re Hirao*, 535 F.2d 67, 190 USPQ 15 (CCPA 1976) and *Kropa v. Robie*, 187 F.2d 150,

152, 88 USPQ 478, 481 (CCPA 1951). Nonetheless, even if the preamble were to be given full patentable weight, the disclosures of Ludtke as discussed above show that the prior art reference is still in alignment with the requirement of "specifying at a master computer compatible operating configurations".

Applicant further argues that the Ludtke prior art is directed only to the partitioning, scaling, and displaying of video or other graphics from a single video source across multiple video displays, and not to rendering of a graphics display. In fact, Applicant makes the assertion that the rendering of a graphics display is not the necessarily equate to the displaying of the rendered graphics. In response to the former remark, the Examiner firstly notes that the term "render" is formally defined as "producing a graphic image from a data file on an output device such as a video display or printer. Accordingly, the Examiner refers Applicant to [col 9, lines 30-56] and [col 12, line 66 – col 13, line 52] which shows that Ludtke's invention partitions, scales, and displays video or other graphics from a single video source across multiple video displays but also calculates and produces an graphic image for display on the multiple configuration display. It should also be noted that given the dictionary definition of the term "render", the Examiner fails to see any significant distinction between the rendering of a graphics display and the displaying of the rendered graphics for a system that implements both tasks. Both Applicant's and Ludtke's invention performs a rendering of a graphics or video image prior to displaying the image among a plurality of slave displays. In fact, in Ludtke's invention, great effort and detail is employed not just in

displaying a received input of an image, but also in ensuring that the data input representing the original video or graphics image is processed accordingly (i.e., partitioned, scaled and displayed) by the slave display devices, with the proper orientation and/or image size among the multiple configuration display (MCD) [col 10, lines 65 – col 11, line 9].

Finally, with regards to claim 1, since Applicant has failed to significantly narrow definition/scope of the claims, and since the claims are read in light of the specification, and since the Appellant is permitted to be their own lexicographer, the Examiner believed Applicant intended broad interpretation be given to the claims. Accordingly, the Examiner has broadly and reasonably interpreted "compatible operating configuration for each of the plurality of slave computers" to be any specified operating configuration for each of the plurality of slave display computers that allows them to properly and collectively render a display in a cooperative, harmonious and agreeable manner, or "compatible" operating states, as required by the claim.

Claims 3, 5, 7, and 17-19 depend from claim 1 and do not patently define over Ludtke for at least the same reasons. As such, the Examiner feels that the rejection of claims 8-16 should be maintained.

Claim 4

With regards to claim 4, which depends from claim 3, Applicant argues that Ludtke does not teach or disclose communicating the specified configuration comprising saving at least one slave configuration file in a predetermined location on each of the plurality of slave computers, using a predetermined filename. In response to the argument, the Examiner maintains that it is inherent if not implied from the teachings of Ludtke that the transmittal of encoded data packets to an address corresponding to a memory location within each of the display devices in a multiple display configuration, would be contained in some standard file format (i.e., MPEG or DV) with a predetermined filename as an identifier.

Examiner notes, firstly, that Ludtke discloses in the background for his invention the implementation of an IEEE 1394-1995 serial bus, **which supports both asynchronous and isochronous format data transfers** [col 1, line 44 – col 2, line5] [col 2, lines 26-50]. Thus, data transfers that are streamed in real-time (isochronously) or transferred using the more traditional and reliable means in its entirety or as a whole given the available bandwidth resources (asynchronously), are both disclosed as well-known and implemented by Ludtke's invention [col 16, lines 37-43] [col 17, lines 14-17]. Ludtke further discloses that the original data includes a selective one or more of **graphics, video, and text** [col 4, lines 58-59] and that the transmitted encoded data is in the format of a selective one of an **MPEG or DV format** [col 4, lines 7-12] [col 15, lines 64-67]. The Examiner notes that the formal definition of "MPEG" is a "**video/audio file** in the MPEG format, and generally have the extension .mpg". It is therefore inherent if not

implicit from the above disclosures that graphics data or scaled video image information, transmitted as encoded data packets to an address corresponding to a memory location within each of the display devices in the multiple display configuration [col 25, lines 40-46], can be stored as an MPEG or DV file having an associated filename or identifier.

Claim 6

With regards to claim 6, Applicant agues that the prior art does not teach or disclose wherein specifying, at a master computer, operating configurations further comprises the step of translating information from the master configuration file and saving the translated information into a plurality of slave configuration files. In response to the argument, the Examiner this is taught by the prior art reference in that Ludtke discloses the presence of control devices on the IEEE 1394-1995 serial bus network, which allow the **control devices to issue commands to the master device 22 concerning the multiple display configuration** [col 19, lines 53-66]. Additionally, and as noted by Applicant himself in his specification [page 8, lines 5-8], "**it is known at higher levels that configuration options or commands may be specified through a configuration file that is stored under a known name and in a known location**". The limitations of claim 6 are thus taught by the combination of disclosures by Ludtke and by Applicant's own admission of a well-known feature.

Claim 8-16

With regards to Claim 8, Applicant argues that the claim defines over the Ludtke at least for the same reasons provided with claim 1 (please see response above for claim 1). Applicant further asserts that the first two elements of claim 8 define an expanded system having a plurality of master computers, and a head computer over each of the master computers, and that no such teaching is found in the reference. Applicant remarks that the position taken by the Office Action that this architecture is inherent is thus misplaced.

In response to the argument, the Examiner notes that further review and a closer examination of the prior art and the disclosures by Ludtke reveals that the claim limitation of an expanded system **having a plurality of master computers, and a head computer over each of the master computers** are, in fact, explicitly disclosed by Ludtke [col 19, lines 49-57] [col 20, lines 40-54]. The Further, the disclosures by Ludtke in this matter completely conform to Applicant's embodiment of such an architecture as illustrated in Figure 17 of Applicant's description of his invention. This disclosure thus supercedes the Examiner's initial argument that it is inherent if not implied to have an expanded system of a plurality of master computers, and a head computer over each of the master computers, as required by the claim, since it has been held that mere duplication of the essential working parts of a device involves only routine skill in the art. (*St. Regis Paper Co. v. Bemis Co., 193 USPQ 8)*.

As supporting proof of this initial argument, the Examiner referred Applicant to a provided reference cited but not referred to associated with the original Office Action, Greaves, Patent No. 6,195,687, which clearly discloses a system of the type of architecture required by Claim 8, wherein multiple master computers 12, which are communicatively coupled to a plurality of slave devices 14, are headed by a "configuration master computer 13" [Greaves: Figure 1].

Regarding the above, Applicant has been reminded that the Examiner has cited particular columns and line numbers in the references applied to the claims above for the convenience of the applicant. Although the specified citations are representative of the teachings of the art and are applied to specific limitations within the individual claim, other passages and figures may apply as well. Applicant has been respectfully requested to fully consider the references in entirety as potentially teaching all or part of the claimed invention, as well as the context of the passage as taught by the prior art or disclosed by the Examiner.

Claims 9-16 depend from claim 8 and do not patently define over Ludtke for at least the same reasons. As such, the Examiner feels that the rejection of claims 8-16 should be maintained.

For the above reasons, it is believed that the rejections should be sustained.

Respectfully submitted,

ZARNI MAUNG
SUPERVISORY PATENT EXAMINER

Glenford Madamba
November 17, 2005

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